

Biomedical Sciences & Engineering Group

Biomedical Sciences & Engineering Group provides extensive expertise in the areas of chemical and biological nonproliferation and medical technologies.



Continuous Monitoring of Pathogens

Chemical & Biological Nonproliferation

Autonomous Pathogen Detection System (APDS) is a bio-smoke alarm for detecting releases of biological weapons. Micro Fluidic Module (MFM) is miniaturizing and automating the sample preparation for biological assays.

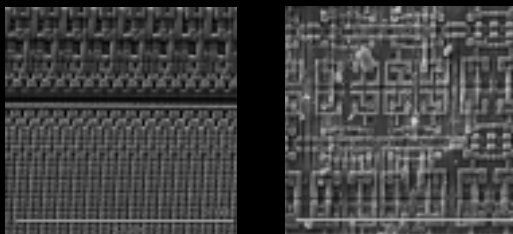


Biological Point Detection

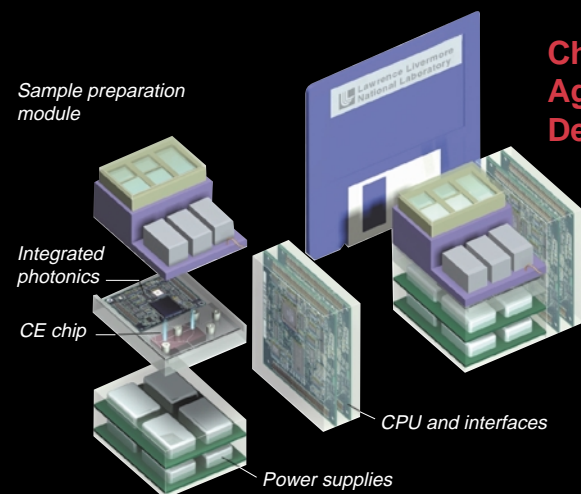


Hand-held advanced nucleic acid analyzer (HANAA) provides sensitive and accurate measurements in the field.

Forensics (Connoisseur)



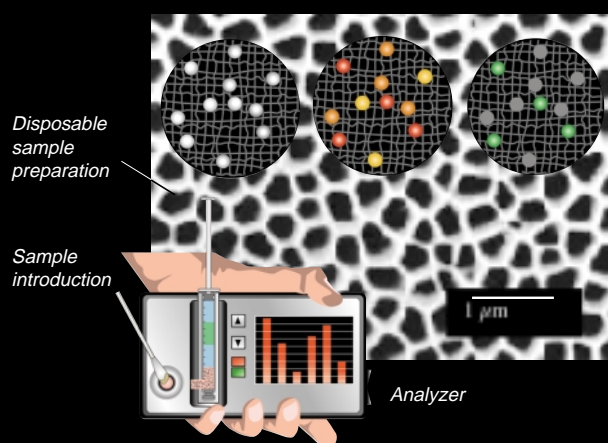
Connoisseur projects are improving microcoatings to support the National Security Agency.



Chemical Agent Detection

Integrated Optical Capillary Electrophoresis (IOCE) allows remote monitoring for suspect chemical signatures.

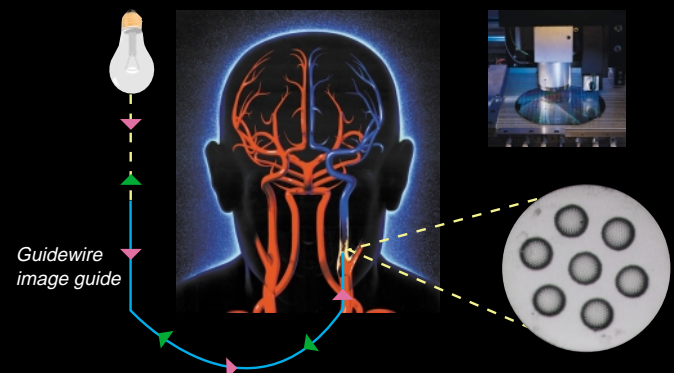
Bedside Diagnostics



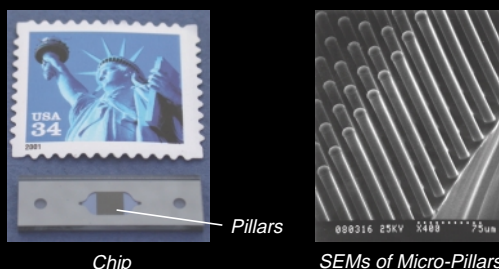
Multiplex Immunoassay Detection System (MIDS) is a point-of-care diagnostic instrument for detection of pathogens and infectious agents.

Medical Technologies

Biosensors

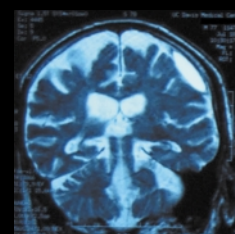


Microdot Array Sensor (MiDAS) is a fiber-optic based platform for in vivo measurement of stroke biomarkers.

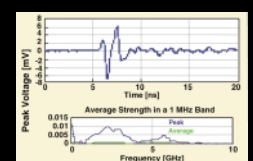


DNA Purification

Silicon micropillars can be used to purify, extract, and concentrate nucleic acid for pathogen detection efforts.



Medical Triage Tools



Micropower Impulse Radar (MIR) will allow noninvasive detection of hematomas following stroke.